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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PATEL, GAUTAM	

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/480,107	PARK, YONG CHEOL	
	Examiner	Art Unit	
	Gautam R. Patel	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23,30-34,37-43 and 46-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,30-34,37-43 and 46-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-23, 30-34, 37-43 and 46-55 are pending for the examination. Claims 48-55 are newly added in response to Examiner's non-responsive notice.

NOTES & REMARKS

2. New action on the claims follows.

The Examiner in his last action, dated 3-6-04, objected to claims 36 and 45, as being claims having allowable subject matter.

Unfortunately it was not brought to the Examiner's attention that the subject matter that was in claims 36 and 45 and now being claimed in all independent claims:

"a start position of the supplementary spare area is varied and is moved toward an inner radius of the recording medium, depending upon the variance of the size
of the supplementary spare area, while an end position of the supplementary spare area is fixed and is located close to a lead-out area of the recording medium".

Drawings/Objection

3. The drawings are objected for following reasons:

The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the inner radius and start position must be shown" must be shown or the feature cancelled from the claim. **No new matter should be entered.**

Correction is required.

OBJECTION TO NEW MATTER ADDED TO SPECIFICATION

4. The amendment filed 6-21-04 and 7-20-04 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that **no amendment shall introduce new matter** into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The specification does not disclose at all that "a start position of the supplementary spare area is varied and is moved toward an inner radius of the recording medium, depending upon the variance of the size of the supplementary spare area, while an end position of the supplementary spare area is fixed and is located close to a lead-out area of the recording medium. Specification does not define inner radius at all in context to start position of the supplementary spare area.

Applicant is required to **cancel the new matter in the reply to this Office Action**.

Claim Rejections - 35 U.S.C. § 112

5. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-23, 30-34, 37-43 & 46-55 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The specification does not disclose at all that "a start position of the supplementary spare area is varied and is moved toward an inner radius of the recording medium, depending upon the variance of the size of the supplementary spare area, while an end position of the supplementary spare area is fixed and is located close to a lead-out area of the recording medium ".

6. Claims 1-23, 30-34, 37-43 & 46-55 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

"Start position of the supplementary spare area" required by the claim that moves towards the "inner radius of the recording medium" is not described in the specification.

The specification does not mention anything about inner radius at all.

Accordingly, the specification does not explain to one of ordinary skill in the art at the time of the invention, how to make and or use the invention comprising the start position and movement towards so called inner radius.

7. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23, 30-34, 37-43 & 46-55 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 11-16 are confusing and unclear. It is not clear that how and why a start position of the supplementary spare area is varied and is moved toward an inner radius of the recording medium, and how the start position is defined and with respect to what. Similarly all other independent claims have the same problems.

8. A search based on the best understanding of the claims has been made to find the most pertinent art, but no statement about invention will be appropriate at this time regarding the allowableness of claims 1-23, 30-34, 37-43 & 46-55 and no art rejection will be made in this office action regarding the claims 1-23, 30-34, 37-43 & 46-55, due to the heavy speculation required to interpret the claims

because of their indefiniteness under 35 U.S.C. 112, 1st and 2nd paragraphs as noted above (see In re Steele, 134 USPQ 292).

9. As a courtesy, original rejection of the claims ***before*** the new matter was introduced are provided below. Claims 36 and 45 are not being addressed because they contain new matter, which has no support in the specification.

Claim Rejections - 35 U.S.C. § 103

10. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-6, 9-10, 30-32, 35, 37-41, 44 and 46-47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukushima et al., US patent 5,111,444 (hereafter Fukushima) in view of Ohata et al., US patent 6,469,978 (hereafter Ohata).

As to claim 1, Fukushima discloses invention as claimed [see fig. 1-3], including steps of resetting addresses [location] information of the supplementary spare area, comprising steps of:

resetting [by formatting] location information of a supplementary spare area [fig. 1, secondary spare area, "SSs"] in response to formatting request to indicate at least theta the supplementary spare area is not assigned, wherein the supplementary spare area has a variable size and the defect management area [fig. 1, volume control area]; and

Fukushima discloses all of the above steps and elements, including primary and secondary spare areas and defect management area. Fukushima does not specifically disclose that supplementary spare area can be used as user data area after formatting.

However, it is well known in the art that most system use the spare area for other uses so as not waste the real estate which is at premium in discs like these. Also Ohata clearly discloses that this is well known in the art:

formatting the optical recording medium in response to the formatting request at least to use the supplementary spare area as a user data area after formatting [col. 8, lines 21-49].

Both Fukushima and Ohata are interested in improving the defect management mechanism on the disc, both are disclosing formatting and PDL, SDL and management area and variable size spare area in their systems.

One of ordinary skill in the art at the time of invention would have realized that the disc recording area is at premium and it would be advisable to use spare portion of the disc for data recording. Therefore, it would have been obvious to have used concept of converting spare area to user area as taught by Ohata in the system of Fukushima because one would be motivated to save money and real estate on disc by using spare portion of disc for user data recording.
NOTE: Since ratio of user area to the spare area is kept constant, inherently supplementary spare area that is not being used gets converted to user area, to maintain same ratio.

11. As to claim 2, Ohata discloses:

determining if a supplementary spare area has been assigned prior to said resetting step (a) and said formatting step (b), wherein said steps (a) and (b) are performed if a supplementary spare area has been assigned [col. 8, lines 21-49 and col. 9, lines7-46].

12. As to claim 3, Ohata discloses:

said resetting step (a) comprises converting the location information [address] of the supplementary spare area to predetermined reset value [col. 8, lines 21-49 and col. 9, lines7-46].

13. As to claim 4, Ohata discloses:
the predetermined value is a lowest value [col. 12, lines 19-34].

14. As to claim 5, Ohata discloses:
the predetermined value is a lowest value [col. 12, lines 19-34].

15. As to claim 6, Ohata discloses:
The predetermined value [DDS capacity] is a specific code based upon a predetermined agreement [col. 12, lines 19-48].

16. As to claim 9, Fukushima discloses:
the location information of the supplementary spare area is stored in a SDL block [fig. 1, SSd] of a DMA of the optical recording medium [col. 8, lines 37-59]

1. As to claim 10, Fukushima discloses:
the location information includes start [beginning addresses and end addresses of the supplementary spare area on the recording medium [col. 8, line 60 to col. 9, line 38] .NOTE: Partition ID inherently has start [beginning] and end addresses for the purpose of partition.

17. As to claim 30, it is rejected for the similar reasons set forth in the rejection of claims 1 and 3, supra.

18. As to claim 31, Fukushima discloses:
The optical recording medium is a DVD-RAM [col. 1, lines 7-14].

19. As to claim 32, Fukushima discloses:

The first information corresponds to a PDL [primary defect list] [col. 7, lines 9-33, fig. 1] and the second information corresponds to a SDL [secondary defect list] [col. 8, lines 37-53; fig. 1].

20. As to claim 35, it is rejected for the similar reasons set forth in the rejection of claim 10, supra.

21. Regarding claim 37 and 38, although Fukushima does not specifically disclose that the addresses are specifically varied such that end address is fixed and start address varies and resetting the value is 00h to indicate area assigned or not assinged to the extent claimed. However Fukushima teaches that the addresses are varied [since size of the spare area changes]. The limitations in claims 37 and 38 do not define a patentable distinct invention over that in Fukushima since both the invention as a whole and Fukushima are directed to storing defective sectors in PDL and SDI and assigning different spare areas. The fixing of which end of the address and selecting certain value within the memory to represent assignment of certain area presents no new or unexpected results, so long as the spare area is varied in a successful way. If one has more room on the upper part one varies the start address if one less room on the upper part one varies the end address. Therefore, to have 00h as the indicator for empty or full space or starting point would have been routine experimentation and optimization in the absence of criticality.

22. Claims 7-8, 11-23, and 33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over combination of Fukushima and Ohata as applied to claims 1-6, 9-10, 30-32, 35, 37-41, 44 and 46-47 above, and further in view of Ito et al., US. Patent 5,404,357 (hereafter Ito).

As to claim 7, Fukushima & Ohata discloses all of the above elements including a primary and secondary spare area and defect management area, they also disclose formatting or certification. The combination does not specifically disclose well known details of the certification and associate details to the extent claimed such as updating SDL into PDL.

However Ito clearly discloses:

step (b) includes registering sectors judged to have defects into a new PDL (primary defect list), if the optical recording medium s to be formatted with certification [col. 9, line 41 to col. 10, line 66 and fig. 6d].

All Fukushima, Ohata and Ito interested in improving the defect management mechanism on the disc, both are disclosing formatting and PDL, SDL and management area and variable size spare area in their systems.

Therefore, it would have been obvious to provide the system of Fukushima and Ohata with details of certification as taught by Ito. The application or use of the certification processing as taught by Ito would have been obvious, because the certification performs the same function in the same way as the certification of Fukushima and Ohata's system, and is an equivalent element. One of ordinary skill in the art would have recognized that the certification of Ito was equivalent and an obvious alternative to certification of system of Fukushima and Ohata.

23. As to claim 8, Ito discloses:

said formatting step (b) includes registering all sectors previously registered in an old SDL (secondary defect list) into new PDL, if the optical recording medium s to be formatted without certification [col. 9, line 41 to col. 10, line 66 and fig. 6d].

24. As to claim 11, Ito discloses:

said formatting step (b) further includes disposing an old SDL existed prior to said formatting step (b), if the optical recording medium is to be formatted with certification [validation] [col. 9, line 41 to col. 10, line 66 and fig. 6d]..

25. As to claim 12, Ito discloses:

said formatting step (b) reformats the optical recording medium by moving defective sectors registered in a first list to a second list [col. 9, line 41 to col. 10, line 66 and fig. 6d].

26. As to claim 13, Ito discloses:

the first list and second list are, respectively, an SDL (secondary defect list) and a PDL (primary defect list) for the optical recording medium [col. 9, line 41 to col. 10, line 66 and fig. 6d].

27. As to claim 14, it is rejected for the similar reasons set forth in the rejection of claims 1 and 12, supra.

28. As to claim 15, Ito discloses:

registering sectors judged to have defects into new PDL if the recording medium is to be formatted with certification [col. 9, line 41 to col. 10, line 66 and fig. 6d].

29. As to claim 16, Ito discloses:

disposing an old SDL of the secondary defect information if the recording medium is to be formatted with certification [col. 9, line 41 to col. 10, line 66 and fig. 6d].

30. As to claim 17, Ito discloses:

registering all sectors previously registered in an old SDL of secondary defect information into the new PDL if the recording medium is to be formatted without certification [col. 9, line 41 to col. 10, line 66 and fig. 6d].

31. As to claim 18, Ito discloses:

the location information of the supplementary spare area is stored in a SDL blocks of a DMA of the recording medium [col. 6, line 31 to col. 7, line 26 and fig. 4]

32. As to claim 19, Ito discloses:

the location information includes start [start-pointer] and end [end-pointer addresses of the supplementary spare area on the recording medium [col. 9, line 40 to col. 10, line 8].

33. As to claim 20, Ohata discloses:

converting the location information of the supplementary spare area to a predetermined value [col. 8, lines 21-49 and col. 9, lines7-46].

34. As to claim 21, Ohata discloses:

the predetermined value is a lowest value, a highest value, or a predetermined code [col. 12, lines 19-48].

35. Regarding claims 22-23, Fukushima, Ohata and Ito discloses the transferring and resetting steps. The combination also discloses that sectors are listed in ascending order according to track and sector numbers. The combination does not specifically disclose that the resetting step is performed first or second as compared to transferring step. The limitations in claims 22 and 23 do not define a patentable distinct invention over that in combination of Fukushima, Ohata and Ito, since both the invention as a whole and the above combination are directed to assigning the sectors in order they are available and

choose sectors which are near to the original sector thus keeping track movement to minimum for saving time. The order in which the transferring or resetting takes place presents no new or unexpected results. Also the combination clearly indicates that "the replacement list has been sorted in the ascending order, but it will be appreciated that the replacement list may be sorted in other orders, for example, descending order. Therefore, to have any order in which to transferring and resetting steps are done in the combination would have been routine experimentation and optimization as taught by the combination, in the absence of criticality.

36. As to claim 33, Ito discloses:

Converting a location of a defective unit listed in the second information to the first information [col. 9, line 41 to col. 10, line 66 and fig. 6d].

37. Claims 24, 27 and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukushima, Ohata and Ito as applied to claims 1 and 14 above, and further in view of AAPA (Applicants Admitted Prior Art) (specification pages 1-9 and figs. 1-5B (hereafter AAPA).

As to claim 24 and 27, Fukushima discloses:

the supplementary spare area is assigned a variable size [col. 8, lines 4-29].

Fukushima discloses all of the above elements, including assigning variable size to spare areas. Fukushima does not specifically discloses that spare are is located close to a lead-out area to the extent claimed.

However, it is well known in the art that placing spare area is a matter of system design and spare area is placed where it is most convenient and has easy access is a matter of choice and it is generally allocated in each zone or group.

Also AAPA clearly discloses:

supplementary spare area is located close to a lead-out area of the recording optical medium [page 5-6, specification. Both Fukushima and AAPA are interested in improving the arrangement of the disc areas in most efficient way.

Therefore, one of ordinary skill in the art at the time of invention would have realized that the placement of the supplementary spare area is not critical to over scheme of things and can be placed where it is most convenient. It would have been obvious to have placed supplementary spare area close to a lead-out area in the system of Fukushima as taught by AAPA because one would be motivated to arrange spare area in most efficient way in the system of Fukushima and provide better access to the supplementary spare area.

38. As to claim 34, it is rejected for the similar reasons set forth in the rejection of claim 24, supra.

39. As to claims 39-44 and 46-47, they are apparatus claims corresponding to claims 30-35 and 37-38 respectively and they are therefore rejected for the same reasons set forth in the rejection of claims 30-35 and 37-38 respectively, supra.

Contact Information

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

GAUTAM R. PATEL
PRIMARY EXAMINER

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

September 16, 2004